3403-24

EPA

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

REGION: 06 | SITE NUMBER (To be assigned by EPA): TX1066

GENERAL INSTRUCTIONS: Complete Sections I and III through XV of this form as completely as possible. Then use the information on this form to develop a Tentative Disposition (Section II). File this form in its entirety in the regional Hazardous Waste Log File. Be sure to include all appropriate Supplemental Reports in the file. Submit a copy of the forms to: U.S. Environmental Protection Agency, Site Tracking System, Hazardous Waste Enforcement Task Force (EN-335), 401 M St., SW, Washington, DC 20460.

I. SITE IDENTIFICATION TXD980873462

A. SITE NAME	B. STREET (or other identifier)		
Dow Chemical Co. Plant	Hwy. 523 at Hwy. 332		
C. CITY	**D. STATE**	**E. ZIP CODE**	**F. COUNTY NAME**
Freeport	TX	77541	Brazoria

G. SITE OPERATOR INFORMATION (X Ref'd Vol 1)

1. NAME			2. TELEPHONE NUMBER
Dow Chemical Co.			709/238-2414
3. STREET	**4. CITY**	**5. STATE**	**6. ZIP CODE**
Hwy. 523 at Hwy. 332	Freeport	TX	77541

H. REALTY OWNER INFORMATION (If different from operator of site)

1. NAME			2. TELEPHONE NUMBER
Same as above			
3. CITY		**4. STATE**	**5. ZIP CODE**

I. SITE DESCRIPTION
See Attachment A

J. TYPE OF OWNERSHIP
☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☐ 4. MUNICIPAL ☒ 5. PRIVATE

II. TENTATIVE DISPOSITION (complete this section last)

A. ESTIMATE DATE OF TENTATIVE DISPOSITION (mo., day, & yr.)	B. APPARENT SERIOUSNESS OF PROBLEM
	☐ 1. HIGH ☐ 2. MEDIUM ☒ 3. LOW ☐ 4. NONE

C. PREPARER INFORMATION

1. NAME	2. TELEPHONE NUMBER	3. DATE (mo., day, & yr.)
David Anderson David Anderson	214/742-6601	Feb. 5, 1985

III. INSPECTION INFORMATION

A. PRINCIPAL INSPECTOR INFORMATION

1. NAME	2. TITLE	
David Anderson	FIT Chemist	
3. ORGANIZATION		**4. TELEPHONE NO. (Area code & no.)**
Ecology & Environment, Inc., 1509 Main, Dallas, TX 75201		214/742-6601

B. INSPECTION PARTICIPANTS

1. NAME	2. ORGANIZATION	3. TELEPHONE NO.
James Hussey	Ecology & Environment, Inc.	214/742-6601

C. SITE REPRESENTATIVES INTERVIEWED (corporate officials, workers, residents)

1. NAME	2. TITLE & TELEPHONE NO.	3. ADDRESS
Karen Shelbart	Mgr. Environmental Svcs. & Oper. 409/238-2414	Dow Chemical Co., Freeport, TX 77541
D.M. Turner	Environmental Operations 409/238-2414	" "
John Carter	"	" " "
Daniel Moss	Environmental Services 409/238-2414	" " "
Sherrie Arnold	517/636-5855	Dow Chemical Co., Midland, MI 48640

Reviewed by 6AW-SC

SUPERFUND FILE
OCT 14 1992
REORGANIZED

Continued From Front

III. INSPECTION INFORMATION (continued)

D. GENERATOR INFORMATION (sources of waste)

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE GENERATED
Dow Chemical Co.	409/238-2414	Freeport, TX	See Attachments B and C

E. TRANSPORTER/HAULER INFORMATION

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE TRANSPORTED
Dow Chemical Co.	409/238-2414	Freeport, TX	See Attachments B and C

F. IF WASTE IS PROCESSED ON SITE AND ALSO SHIPPED TO OTHER SITES, IDENTIFY OFF-SITE FACILITIES USED FOR DISPOSAL.

1. NAME	2. TELEPHONE NO.	3. ADDRESS
NA		

G. DATE OF INSPECTION (mo., day, & yr.)	H. TIME OF INSPECTION	I. ACCESS GAINED BY (credentials must be shown in all cases)
1/15/85	0800-1400 hrs.	☒ 1. PERMISSION ☐ 2. WARRANT

J. WEATHER (describe)
Partly cloudy, light winds, 45-55°F

IV. SAMPLING INFORMATION

A. Mark 'X' for the types of samples taken and indicate where they have been sent e.g., regional lab, other EPA lab, contractor, etc. and estimate when the results will be available.

1. SAMPLE TYPE	2. SAMPLE TAKEN (mark 'X')	3. SAMPLE SENT TO	4. DATE RESULTS AVAILABLE
a. GROUNDWATER			
b. SURFACE WATER			
c. WASTE			
d. AIR			
e. RUNOFF			
f. SPILL			
g. SOIL			
h. VEGETATION			
i. OTHER (specify)	X	No samples taken during inspection	

B. FIELD MEASUREMENTS TAKEN (e.g., radioactivity, explosivity, PH, etc.)

1. TYPE	2. LOCATION OF MEASUREMENTS	3. RESULTS
HNu	Around disposal areas	No readings above background

Continue On Page 3

Continued From Page 2

IV. SAMPLING INFORMATION (continued)

C. PHOTOS

1. TYPE OF PHOTOS: [X] a. GROUND [ ] b. AERIAL

2. PHOTOS IN CUSTODY OF: EPA Region VI Dallas (attached)

D. SITE MAPPED?

[X] YES. SPECIFY LOCATION OF MAPS: See Attachments

E. COORDINATES

1. LATITUDE (deg-min-sec.): 28° 56' 50" N

2. LONGITUDE (deg-min-sec.): 95° 19' 05" W

V. SITE INFORMATION

A. SITE STATUS

[ ] 1. ACTIVE (Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.)

[X] 2. INACTIVE (Those sites which no longer receive wastes.)

[ ] 3. OTHER (specify) (Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)

B. IS GENERATOR ON SITE?

[ ] 1. NO [X] 2. YES (specify generator's four-digit SIC Code): 2812, 2865, 2869, 2813, 2819, 2821, 2822, 2833, 2841, 2873, 2879, 2899, 2911, 3339, 3369

C. AREA OF SITE (in acres): See Attachment A (1.1.)

D. ARE THERE BUILDINGS ON THE SITE?

[ ] 1. NO YES (specify): offices, labs, plant structures

VI. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

A. TRANSPORTER	B. STORER	C. TREATER	D. DISPOSER
[ ] 1. RAIL	[ ] 1. PILE	[ ] 1. FILTRATION	[X] 1. LANDFILL
[ ] 2. SHIP	[ ] 2. SURFACE IMPOUNDMENT	[ ] 2. INCINERATION	[ ] 2. LANDFARM
[ ] 3. BARGE	[ ] 3. DRUMS	[ ] 3. VOLUME REDUCTION	[ ] 3. OPEN DUMP
[X] 4. TRUCK	[ ] 4. TANK, ABOVE GROUND	[ ] 4. RECYCLING/RECOVERY	[X] 4. SURFACE IMPOUNDMENT
[ ] 5. PIPELINE	[ ] 5. TANK, BELOW GROUND	[ ] 5. CHEM./PHYS./TREATMENT	[ ] 5. MIDNIGHT DUMPING
[ ] 6. OTHER (specify)	[ ] 6. OTHER (specify)	[X] 6. BIOLOGICAL TREATMENT	[X] 6. INCINERATION
		[ ] 7. WASTE OIL REPROCESSING	[X] 7. UNDERGROUND INJECTION
		[ ] 8. SOLVENT RECOVERY	[ ] 8. OTHER (specify)
		[ ] 9. OTHER (specify)	

E. SUPPLEMENTAL REPORTS. If the site falls within any of the categories listed below, Supplemental Reports must be completed. Indicate which Supplemental Reports you have filled out and attached to this for...

[ ] 1. STORAGE [X] 2. INCINERATION [X] 3. LANDFILL [X] 4. SURFACE IMPOUNDMENT [X] 5. DEEP WELL

[X] 6. CHEM/BIO/PHYS TREATMENT [ ] 7. LANDFARM [ ] 8. OPEN DUMP [X] 9. TRANSPORTER [ ] 10. RECYCLOR/RECLAIMER

VII. WASTE RELATED INFORMATION

A. WASTE TYPE

[X] 1. LIQUID [X] 2. SOLID [X] 3. SLUDGE [ ] 4. GAS

B. WASTE CHARACTERISTICS

[X] 1. CORROSIVE [X] 2. IGNITABLE [ ] 3. RADIOACTIVE [ ] 4. HIGHLY VOLATILE

[X] 5. TOXIC [X] 6. REACTIVE [ ] 7. INERT [X] 8. FLAMMABLE

[ ] 9. OTHER (specify):

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

Dow has searched their records to obtain an estimate of the quantities of waste disposed.

 Continue On Reverse

Continued From Front

WASTE RELATED INFORMATION (continued)

2. Estimate the amount (specify unit of measure) of waste by category. Mark 'X' to indicate which wastes are present.

a. SLUDGE	b. OIL	c. SOLVENTS	d. CHEMICALS	e. SOLIDS	f. OTHER
AMOUNT: See Attach. B	AMOUNT: None	AMOUNT: See Attach. B	AMOUNT: See Attach. B	AMOUNT: None	AMOUNT: See Attach. B
UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE
(1) PAINT, PIGMENTS	(1) OILY WASTES	(1) HALOGENATED SOLVENTS	(1) ACIDS	(1) FLYASH	(1) LABORATORY, PHARMACEUT.
X (2) METALS SLUDGES	(2) OTHER (specify)	X (2) NON-HALOGNTD. SOLVENTS	(2) PICKLING LIQUORS	(2) ASBESTOS	(2) HOSPITAL
(3) POTW		(3) OTHER (specify)	X (3) CAUSTICS	(3) MILLING/MINE TAILINGS	(3) RADIOACTIVE
(4) ALUMINUM SLUDGE			(4) PESTICIDES	(4) FERROUS SMELTING WASTES	(4) MUNICIPAL
(5) OTHER (specify)			(5) DYES/INKS	(5) NON-FERROUS SMLTG. WASTES	X (5) OTHER (specify) plant trash
			(6) CYANIDE	(6) OTHER (specify)	
			(7) PHENOLS		
			(8) HALOGENS		
			(9) PCB		
			X (10) METALS		
			(11) OTHER (specify)		

D. LIST SUBSTANCES OF GREATEST CONCERN WHICH ARE ON THE SITE (place in descending order of hazard)

1. SUBSTANCE	2. FORM (mark 'X') a. SOLID	b. LIQ.	c. VAPOR	3. TOXICITY (mark 'X') a. HIGH	b. MED.	c. LOW	d. NONE	4. CAS NUMBER	5. AMOUNT	6. UNIT
Arsenic	X							7440-38-2	Unknown	
Chromium	X							7440-47-3	Unknown	
Lead	X							7439-92-1	Unknown	
Mercury	X							7439-97-6	Unknown	
Silver	X							7440-22-4	Unknown	
Magnesium sludge	X							7439-95-4	Unknown	
See Attachment C for listing of wastes from sources										

VIII. HAZARD DESCRIPTION

FIELD EVALUATION HAZARD DESCRIPTION: Place an 'X' in the box to indicate that the listed hazard exists. Describe the hazard in the space provided.

X A. HUMAN HEALTH HAZARDS

Many of the listed wastes are toxic.

Continued From Page 3

VIII. HAZARD DESCRIPTION (continued)

☐ B. NON-WORKER INJURY/EXPOSURE

☐ C. WORKER INJURY/EXPOSURE

☒ D. CONTAMINATION OF WATER SUPPLY

The primary drinking water supply is from lakes on the Brazos River 22 and 44 miles upstream from the site. Some groundwater is used in the area, however the aquifers in use are below the Beaumont Clay which underlies the area at a depth of approximately 80 feet.

☒ E. CONTAMINATION OF FOOD CHAIN

Shallow groundwater (water table) contamination has occurred. See VIII. U.

☒ F. CONTAMINATION OF GROUND WATER

Possible from groundwater migration to the Old Brazos River and Intercoastal Waterway, Dow Barge Canal, Dow and Freeport Water Supply Canals. All surface runoff from rainfall is discharged through NPDES outfalls after treatment.

☐ G. CONTAMINATION OF SURFACE WATER

Continued From Front

VIII. HAZARD DESCRIPTION (continued)

☐ H. DAMAGE TO FLORA/FAUNA

☐ I. FISH KILL

☐ J. CONTAMINATION OF AIR

☐ K. NOTICEABLE ODORS

☒ L. CONTAMINATION OF SOIL

Soil in disposal areas in contaminated.

☐ M. PROPERTY DAMAGE

Continued From Page 6

VIII. HAZARD DESCRIPTION (continued)

☐ N. FIRE OR EXPLOSION

☐ O. SPILLS/LEAKING CONTAINERS/RUNOFF/STANDING LIQUID

☐ P. SEWER, STORM DRAIN PROBLEMS

☐ Q. EROSION PROBLEMS

☐ R. INADEQUATE SECURITY

☐ S. INCOMPATIBLE WASTES

Continue On Reverse

VIII. HAZARD DESCRIPTION (continued)

☐ T. MIDNIGHT DUMPING

☒ U. OTHER (specify):

Groundwater monitoring is being and will continue to be conducted by DOW around the A-2 and A-100 disposal sites. No surface migration of contaminants was noted by the inspectors. The results of groundwater monitoring do not indicate contaminant migration from these areas.

WDW-81, the plant A injection well was plugged in 1979 and is not operational.

The A-27 landfill has no groundwater monitoring system. DOW believes that only non-hazardous, inorganic waste (magnesium sludge, plant trash) was disposed of in this area.

DOW and the TDWR signed a compliance agreement 7/15/84 for remedial action at the A-1 disposal area. Migration of contaminants from the area in the groundwater has been documented in samples from monitor wells. A hydrocarbon/contaminated groundwater recovery system collecting 100,000 gallons of fluid per week for treatment is in operation currently as a part of the compliance agreement. DOW has hired an engineering consultant to assess the groundwater problem and to propose remedial measures. Monthly progress reports to the TDWR are required in the agreement.

The EPA should coordinate with TDWR on DOW's planned remedial activites and their progress. Due to the compliance agreement between DOW and TDWR, no further FIT actions are recommended.

IX. POPULATION DIRECTLY AFFECTED BY SITE

A. LOCATION OF POPULATION	B. APPROX. NO. OF PEOPLE AFFECTED	C. APPROX. NO. OF PEOPLE AFFECTED WITHIN UNIT AREA	D. APPROX. NO. OF BUILDINGS AFFECTED	E. DISTANCE TO SITE (specify units)
1. IN RESIDENTIAL AREAS	6000	6000	1500	1 mile
2. IN COMMERCIAL OR INDUSTRIAL AREAS	4000	4000	300	1 mile
3. IN PUBLICLY TRAVELLED AREAS	7000	7000	NA	1 mile
4. PUBLIC USE AREAS (parks, schools, etc.)	2000	2000	20	1 mile

X. WATER AND HYDROLOGICAL DATA

A. DEPTH TO GROUNDWATER (specify unit)	B. DIRECTION OF FLOW	C. GROUNDWATER USE IN VICINITY
5-10 ft. See Attachment A	E SE	residential and city
D. POTENTIAL YIELD OF AQUIFER	**E. DISTANCE TO DRINKING WATER SUPPLY (specify unit of measure)**	**F. DIRECTION TO DRINKING WATER SUPPLY**
See Attachment A	20 miles	NW

G. TYPE OF DRINKING WATER SUPPLY

☐ 1. NON-COMMUNITY < 15 CONNECTIONS* ☒ 2. COMMUNITY (specify name): Dow plant system > 15 CONNECTIONS

☒ 3. SURFACE WATER ☐ 4. WELL See Attachment A

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Continued From Page 8

X. WATER AND HYDROLOGICAL DATA (continued)

H. LIST ALL DRINKING WATER WELLS WITHIN A 1/4 MILE RADIUS OF SITE

1. WELL	2. DEPTH (specify unit)	3. LOCATION (proximity to population/buildings)	4. NON-COMMUNITY (mark 'X')	5. COMMUNITY (mark 'X')
None known				

I. RECEIVING WATER

1. NAME: Old Brazou River Channel #1111

☐ 2. SEWERS ☒ 3. STREAMS/RIVERS ☐ 4. LAKES/RESERVOIRS ☐ 5. OTHER (specify):

6. SPECIFY USE AND CLASSIFICATION OF RECEIVING WATERS

contact and non-contact recreation

XI. SOIL AND VEGITATION DATA

LOCATION OF SITE IS IN

☐ A. KNOWN FAULT ZONE ☐ B. KARST ZONE ☐ C. 100 YEAR FLOOD PLAIN ☑ D. WETLAND

☐ E. A REGULATED FLOODWAY ☐ F. CRITICAL HABITAT ☐ G. RECHARGE ZONE OR SOLE SOURCE AQUIFER

XII. TYPE OF GEOLOGICAL MATERIAL OBSERVED

Mark 'X' to indicate the type(s) of geological material observed and specify where necessary, the component parts.

'X'	A. OVERBURDEN	'X'	B. BEDROCK (specify below)	'X'	C. OTHER (specify below)
X	1. SAND	X	Beaumont clay (no bedrock seen)		
X	2. CLAY				
	3. GRAVEL				

XIII. SOIL PERMEABILITY

☐ A. UNKNOWN ☐ B. VERY HIGH (100,000 to 1000 cm/sec.) ☐ C. HIGH (1000 to 10 cm/sec.)

☐ D. MODERATE (10 to .1 cm/sec.) ☐ E. LOW (.1 to .001 cm/sec.) ☒ F. VERY LOW (.001 to .00001 cm/sec.)

G. RECHARGE AREA

☐ 1. YES ☒ 2. NO 3. COMMENTS

H. DISCHARGE AREA

☐ 1. YES ☒ 2. NO 3. COMMENTS

I. SLOPE

1. ESTIMATE % OF SLOPE	2. SPECIFY DIRECTION OF SLOPE, CONDITION OF SLOPE, ETC.
less than 1%	generally flat, slight slope to ESE.

J. OTHER GEOLOGICAL DATA

Plant is located in gulf tidal marsh area. Area is underlain by the Beaumont clay.

Continued From Front

XIV. PERMIT INFORMATION

List all applicable permits held by the site and provide the related information.

A. PERMIT TYPE (e.g., RCRA, State, NPDES, etc.)	B. ISSUING AGENCY	C. PERMIT NUMBER	D. DATE ISSUED (mo., day, & yr.)	E. EXPIRATION DATE (mo., day, & yr.)	F. IN COMPLIANCE (mark 'X') 1. YES	2. NO	3. UNKNOWN
RCRA	EPA	TXD000803270	8/18/80, 11/19/80(Pt. A)	Unknown			X
NPDES	EPA	TX0006438	12/23/74	6/30/86			X
State	TDWR	Solid Waste Reg 30/06	Unknown	Unknown			X
Air	TACB	Unknown	Unknown	Unknown			X

XV. PAST REGULATORY OR ENFORCEMENT ACTIONS

☐ NONE ☒ YES (summarize in this space)

Compliance agreement with TDWR effective 7/15/85.

NOTE: Based on the information in Sections III through XV, fill out the Tentative Disposition *(Section II)* information on the first page of this form.

30 Landfill (A-1 Block)

LANDFILLS SITE INSPECTION REPORT (Supplemental Report)	INSTRUCTION Answer and Explain as Necessary.
1. EVIDENCE OF SITE INSTABILITY (Erosion, Settling, Sink Holes, etc.) ☐ YES ☒ NO	
2. EVIDENCE OF IMPROPER DISPOSAL OF BULK LIQUIDS, SEMI-SOLIDS AND SLUDGES INTO THE LANDFILL ☐ YES ☒ NO	
3. CHECK RECORDS OF CELL LOCATION AND CONTENTS AND BENCHMARK ☐ YES ☒ NO	
4. WASTES SURROUNDED BY SORBENT MATERIAL ☐ YES ☒ NO	
5. DIVERSION STRUCTURES ARE EFFECTIVELY CONSTRUCTED AND PROPERLY MAINTAINED ☒ YES ☐ NO	
6. EVIDENCE OF PONDING OF WATER ON SITE ☐ YES ☒ NO	
7. EVIDENCE OF IMPROPER/INADEQUATE DRAINING ☐ YES ☒ NO	
8. ADEQUATE LEACHATE COLLECTION SYSTEM (If "Yes", specify Type) ☐ YES ☒ NO	
8a. SURFACE LEACHATE SPRING ☐ YES ☒ NO	
9. RECORDS OF LEACHATE ANALYSIS ☐ YES ☐ NO NA	
10. GAS MONITORING ☐ YES ☒ NO	
11. GROUNDWATER MONITORING WELLS ☒ YES ☐ NO	
12. ARTIFICIAL MEMBRANE LINER INSTALLED ☐ YES ☒ NO	
13. SPECIFIC CONTAINMENT MEASURES (Clay Bottom, Sides, etc) ☒ YES ☐ NO Clay bottoms and sides	
14. FIXATION (Stabilization) OF WASTE ☐ YES ☒ NO	
15. ADEQUATE CLOSURE OF INACTIVE PORTION OF FACILITY ☒ YES ☐ NO	
16. COVER (Type) Cover is natural soil in the area.	
16a. THICKNESS 2½ - 5 ft.	
16b. PERMEABILITY very low	
16c. DAILY APPLICATION ☐ YES ☐ NO NA	

EPA Form T2070-3E (10-79)

Landfill (A-41 Block)

LANDFILLS SITE INSPECTION REPORT (Supplemental Report)	INSTRUCTION Answer and Explain as Necessary.
1. EVIDENCE OF SITE INSTABILITY (Erosion, Settling, Sink Holes, etc.) ☐ YES ☒ NO	
2. EVIDENCE OF IMPROPER DISPOSAL OF BULK LIQUIDS, SEMI-SOLIDS AND SLUDGES INTO THE LANDFILL ☐ YES ☒ NO	
3. CHECK RECORDS OF CELL LOCATION AND CONTENTS AND BENCHMARK ☐ YES ☒ NO	
4. WASTES SURROUNDED BY SORBENT MATERIAL ☐ YES ☒ NO	
5. DIVERSION STRUCTURES ARE EFFECTIVELY CONSTRUCTED AND PROPERLY MAINTAINED ☒ YES ☐ NO	
6. EVIDENCE OF PONDING OF WATER ON SITE ☐ YES ☒ NO	
7. EVIDENCE OF IMPROPER/INADEQUATE DRAINING ☐ YES ☒ NO	
8. ADEQUATE LEACHATE COLLECTION SYSTEM (If "Yes", specify Type) ☒ YES ☐ NO 17 recovery wells, 160,000 gal/week recovered.	
8a. SURFACE LEACHATE SPRING ☐ YES ☒ NO	
9. RECORDS OF LEACHATE ANALYSIS ☐ YES ☒ NO	
10. GAS MONITORING ☐ YES ☒ NO	
11. GROUNDWATER MONITORING WELLS ☒ YES ☐ NO	
12. ARTIFICIAL MEMBRANE LINER INSTALLED ☐ YES ☒ NO	
13. SPECIFIC CONTAINMENT MEASURES (Clay bottom, Sides, etc) ☒ YES ☐ NO Clay bottom and sides	
14. FIXATION (Stabilization) OF WASTE ☐ YES ☒ NO	
15. ADEQUATE CLOSURE OF INACTIVE PORTION OF FACILITY ☒ YES ☐ NO	
16. COVER (Type) natural soil from area	
16a. THICKNESS 5 ft.	
16b. PERMEABILITY very low	
16c. DAILY APPLICATION ☐ YES ☐ NO NA	

EPA Form T2070-3E (10-79)

A- Landfill

LANDFILLS SITE INSPECTION REPORT (Supplemental Report)	INSTRUCTION Answer and Explain as Necessary.
1. EVIDENCE OF SITE INSTABILITY (Erosion, Settling, Sink Holes, etc.) [ ] YES [X] NO	
2. EVIDENCE OF IMPROPER DISPOSAL OF BULK LIQUIDS, SEMI-SOLIDS AND SLUDGES INTO THE LANDFILL [ ] YES [X] NO	
3. CHECK RECORDS OF CELL LOCATION AND CONTENTS AND BENCHMARK [ ] YES [X] NO	
4. WASTES SURROUNDED BY SORBENT MATERIAL [ ] YES [X] NO	
5. DIVERSION STRUCTURES ARE EFFECTIVELY CONSTRUCTED AND PROPERLY MAINTAINED [X] YES [ ] NO	
6. EVIDENCE OF PONDING OF WATER ON SITE [ ] YES [X] NO	
7. EVIDENCE OF IMPROPER/INADEQUATE DRAINING [ ] YES [X] NO	
8. ADEQUATE LEACHATE COLLECTION SYSTEM (If "Yes", specify Type) [ ] YES [ ] NO No system	
8a. SURFACE LEACHATE SPRING [ ] YES [X] NO	
9. RECORDS OF LEACHATE ANALYSIS [ ] YES [X] NO	
10. GAS MONITORING [ ] YES [X] NO	
11. GROUNDWATER MONITORING WELLS [ ] YES [X] NO	
12. ARTIFICIAL MEMBRANE LINER INSTALLED [ ] YES [X] NO	
13. SPECIFIC CONTAINMENT MEASURES (Clay Bottom, Sides, etc) [X] YES [ ] NO Clay sides and bottom	
14. FIXATION (Stabilization) OF WASTE [ ] YES [X] NO	
15. ADEQUATE CLOSURE OF INACTIVE PORTION OF FACILITY [X] YES [ ] NO	
16. COVER (Type) natural soil used for cover	
16a. THICKNESS 2 - 5 ft.	
16b. PERMEABILITY very low	
16c. DAILY APPLICATION [ ] YES [ ] NO NA	

EPA Form T2070-3E (10-79)

A-2 Impoundments (A76 Block)

SURFACE IMPOUNDMENTS SITE INSPECTION REPORT
(Supplemental Report)

INSTRUCTION
Answer and Explain as Necessary.

1. TYPE OF IMPOUNDMENT

earthen, 6 impoundments were constructed.

2. STABILITY/CONDITION OF EMBANKMENTS

NA

3. EVIDENCE OF SITE INSTABILITY (Erosion, Settling, Sink Holes, etc.)

☐ YES ☒ NO

4. EVIDENCE OF DISPOSAL OF IGNITABLE OR REACTIVE WASTE

☒ YES ☐ NO

5. ONLY COMPATIBLE WASTES ARE STORED OR DISPOSED OF IN THE IMPOUNDMENT

☒ YES ☐ NO

6. RECORDS CHECKED FOR CONTENTS AND LOCATION OF EACH SURFACE IMPOUNDMENT

☐ YES ☒ NO

7. IMPOUNDMENT HAS LINER SYSTEM

☒ YES ☐ NO natural clay

7a. INTEGRITY OF LINER SYSTEM CHECKED

☐ YES ☒ NO

7b. FINDINGS

NA

8. SOIL STRUCTURE AND SUBSTRUCTURE

low permiability clay

9. MONITORING WELLS

☒ YES ☐ NO

10. LENGTH, WIDTH, AND DEPTH

LENGTH 150 ft. WIDTH 200 ft. DEPTH 10 ft.

11. CALCULATED VOLUMETRIC CAPACITY

300,000 cu. ft. each

12. PERCENT OF CAPACITY REMAINING

NA

13. ESTIMATE FREEBOARD

NA

14. SOLIDS DEPOSITION

☐ YES ☐ NO NA

15. DREDGING DISPOSAL METHOD

NA

16. OTHER EQUIPMENT

Six impoundments were constructed at this site and were used from 1970 to 1976. Liquid contents were removed and incinerated beginning in 1975. Impoundments were filled in after removal of contents. Final cover consists of 2½ to 3 ft. of natural clay.

EPA Form T2070-3C (10-79)

ATTACHMENT A

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT SUPPLEMENT SHEET

Instruction - This sheet is provided to give additional information in explanation of a question on the form T2070-3.

Corresponding number on form	Additional Remark and/or Explanation
I.i.	Dow Chemical Co. operates two chemical manufacturing plants at Freeport, TX. The two plants (Plant A and Plant B) cover 4000 acres. The inactive waste disposal facilities within Plant A are as follows: A-100 landfill (A1 Block) 1 ac A-1 landfill (A41 Block) 34 ac A-2 impoundments (A76 Block) 30 ac A-27 landfill (A27 Block) 2 ac WDW 81 Plant A injection well Map 1 shows the locations of these disposal facilities within Plant A and the relationship of the two plants. Environmental Services and Operations of the two plants have been combined into one office.
X. A, D & G	The depth to groundwater (water table) is from 5 to 10 feet, with flow to the east southeast. Usable aquifers in the area include the Beaumont (150 ft. depth, 500 gpm yield), the Chico (400 ft. depth, yield greater than 500 gpm) and the Gulf Coast Sands (660 ft. depth, 590 gpm yield). The towns of Clute and Lake Jackson and some individual homes use groundwater for their drinking water supply. Clute is 7 miles NW of Plant A, Lake Jackson is 10 miles NW of Plant A. The town of Freeport formerly used groundwater for its drinking water, however the wells have become brackish from salt water intrusion and are no longer used. Freeport and DOW, which operates its own water treatment system, both currently use water from lakes located at miles 27 and 44 of the Brazos River, NW of the site.

Attachment B

Following is a summary of the types and amounts of waste disposed of at each facility; and the years of use.

A-100 Landfill: used from 1945 to 1950; 1,000,000 lbs. of caustics, plant trash and drummed hydrocarbons (photos 5-7, map 2).

A-1 Landfill: used from 1953 to 1973; 1,253,300,000 lbs. of magnesium sludge, K-cake and miscellaneous organics (photos 15-18, map 3).

A-2 Impoundment: used from 1970 to 1976; 56,010,000 lbs. of chlorinated hydrocarbons; liquid contents removed and incinerated beginning in 1975, no waste currently present (photos 8-13, map 4).

A-27 Landfill: used from 1948 to 1952; 200,000 lbs. of magnesium sludge and plant trash (photos 1-4, map 5).

WDW-81 Plant A injection well: used from 1971 to 1974; 12,000,000 lbs. of aqueous solutions of organics and inorganics from glycol A and ethylene dichloride plants; injected at 6295-6356 ft. Plugged 12-79 (see photo 14).

ATTACHMENT C

Hazardous waste from specific and nonspecific sources

Hazardous Waste Number	Description
D001 -	EPA ignitable waste
D002 -	EPA corrosive waste
D003 -	EPA reactive waste
K016 -	Carbon tetrachloride production waste
K017 -	Epichlorohydrin production waste
K018 -	Ethyl chloride production waste
K019 -	Ethylene dichloride production waste
K027 -	Toluene diisocyanate production waste
K028 -	1,1,1-Trichloroethane production waste, spent catalyst
K029 -	1,1,1-Trichloroethane production waste, steam stripper
K073 -	Chlorinated hydrocarbons waste from chlorine production
K095 -	1,1,1-Trichloroethane production waste
K096 -	a,a,a-Trichloroethane 1,1,1 production waste
F001 -	Spent halogenated degreasing solvents: tetrachloroethene, trichloroethene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, chlorinated fluorocarbons; sludge from the recovery of these solvents.
F002 -	Spent halogenated solvents and the still bottoms from their recovery; tetrachloroethene, methylene chloride, trichloroethene, 1,1,1-trichloroethene, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, O-dichlorobenzene, trichlorofluoromethane.
F003 -	Spent non-halogenated solvents and still bottoms from their recovery; xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, n-butyl alcohol, cyclohexanone.
F005 -	Spent non-halogenated solvents and still bottoms from their recovery; methanol, toluene, methyl ethyl ketone, methyl isobutyl ketone, carbon disulfide, isobutanol, pyridine.
F007 -	Spent plating bath solutions from electroplating solutions.
F008 -	Plating bath sludges from the bottom of plating baths from electroplating operations.
F009 -	Spent stripping and cleaning bath solutions from electroplating operations.

Note: Amounts of each waste are unknown. No CAS numbers.

OVERSIZE DOCUMENT

The page that occupies this position in the paper document is:

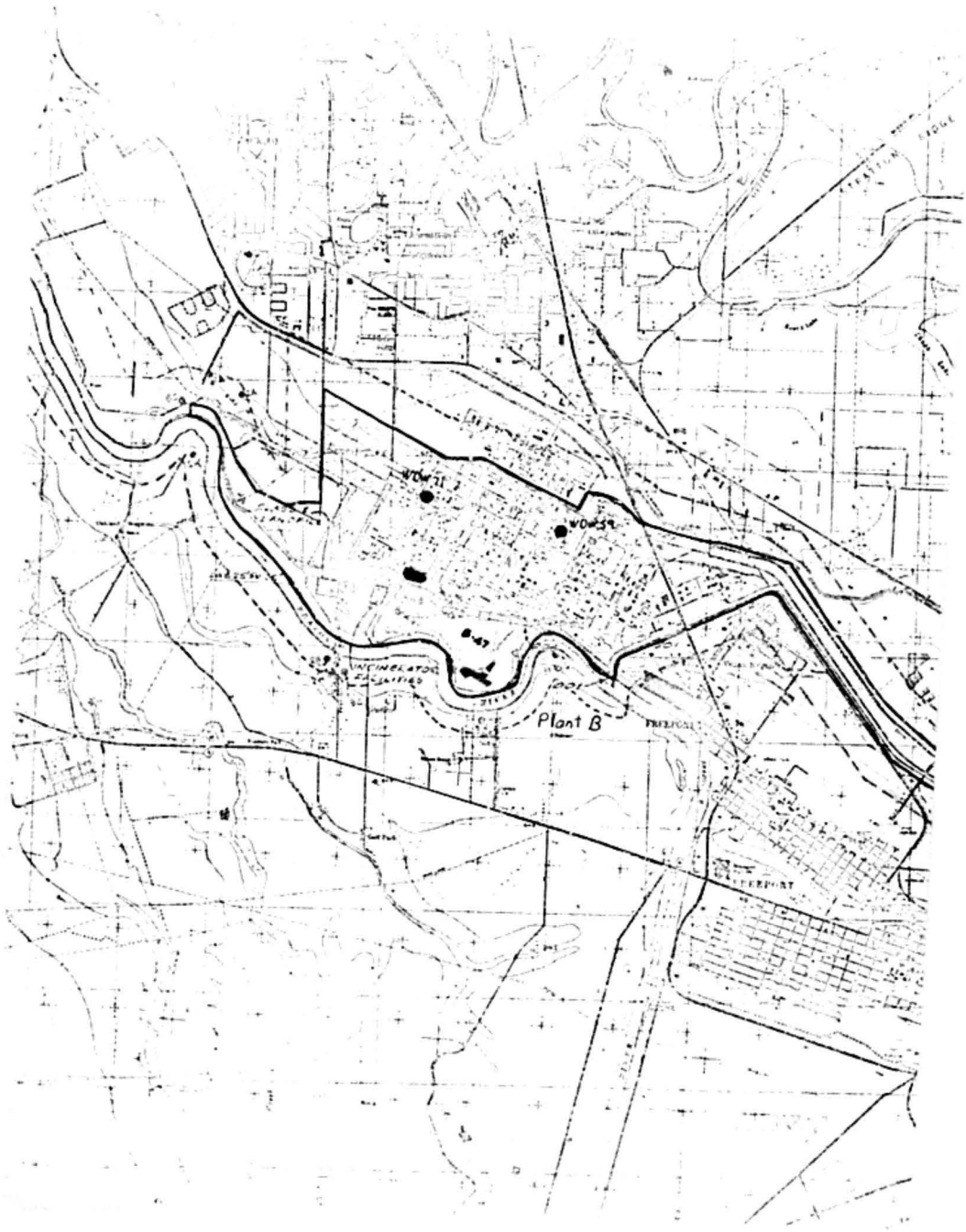
Oversized document number:

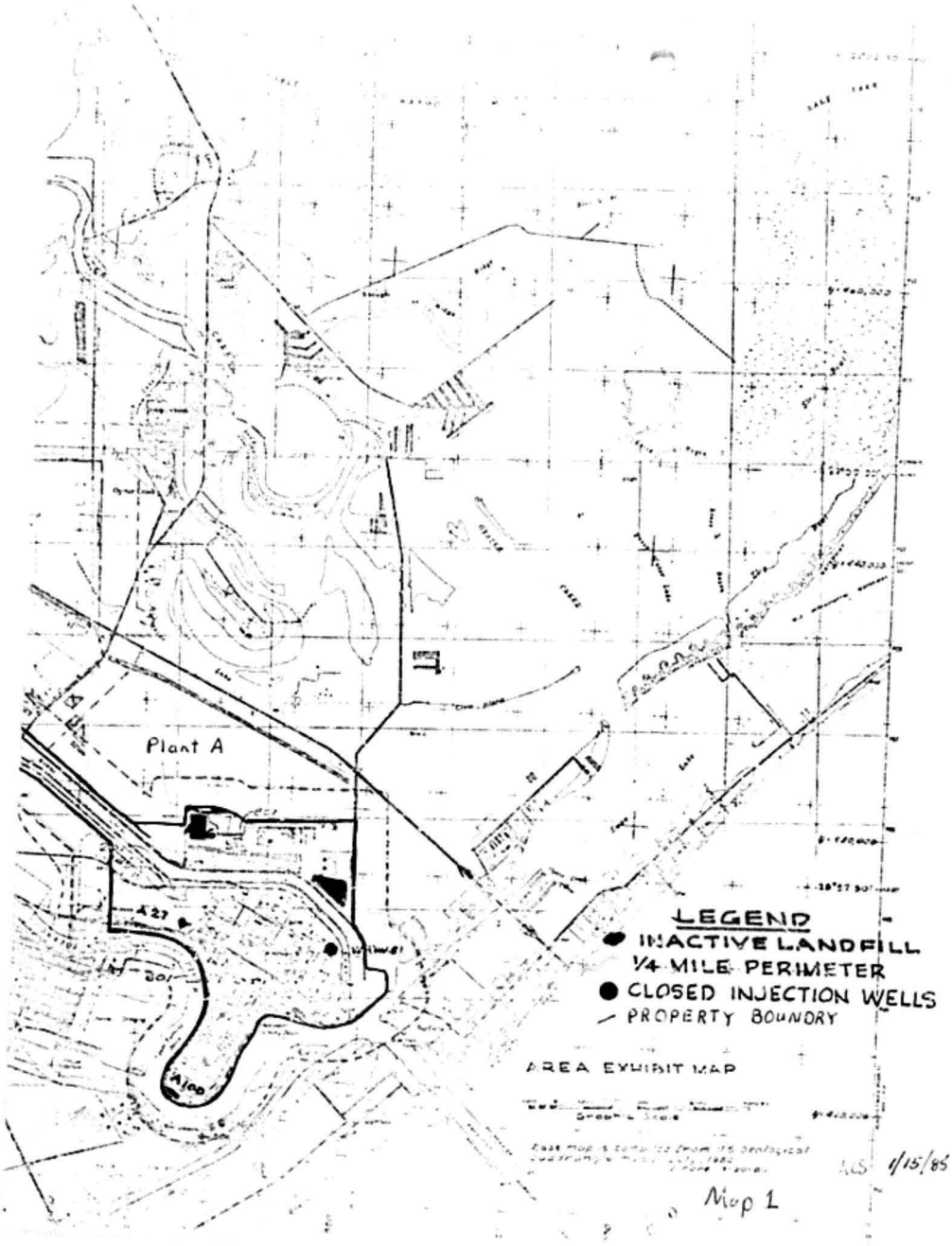
TX0980875462
SF SA VOL 02

on the roll of 35mm film.

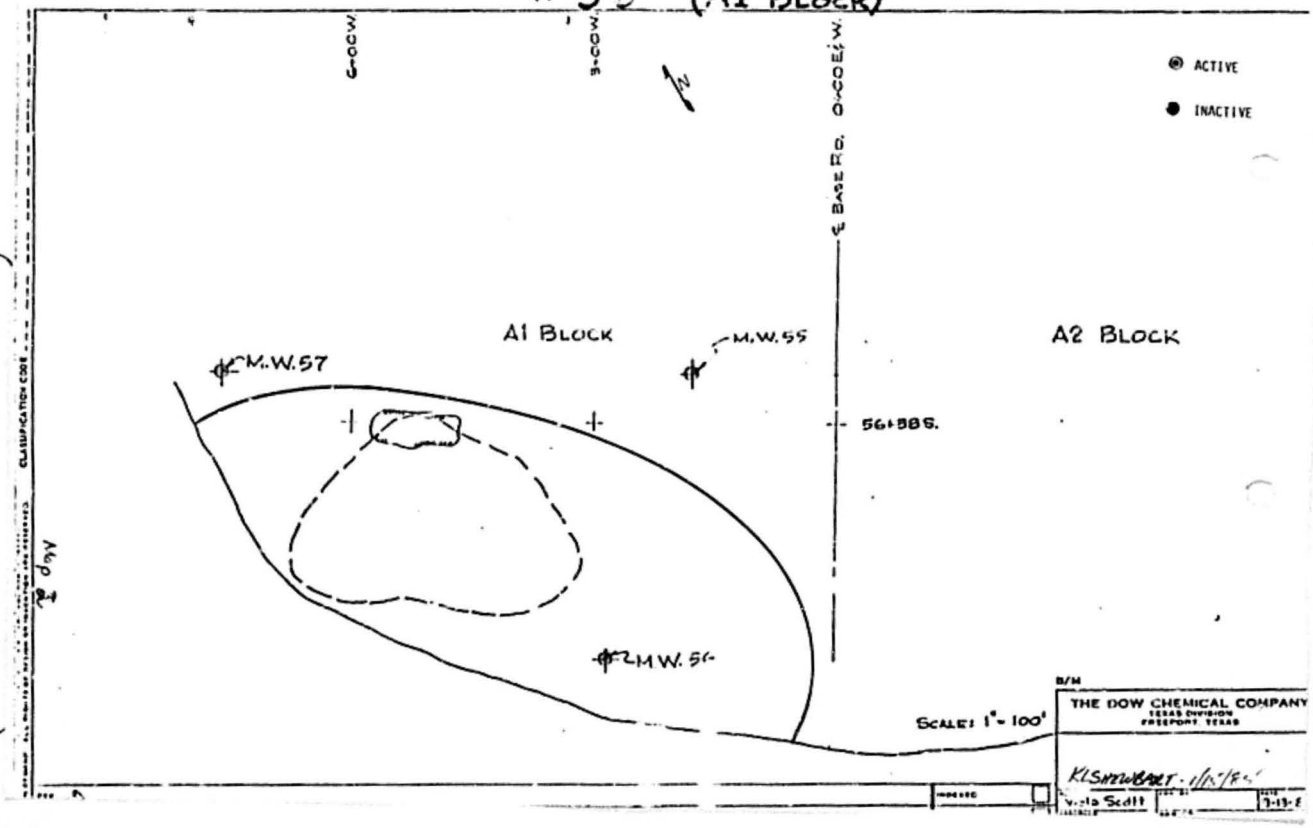
Titled:

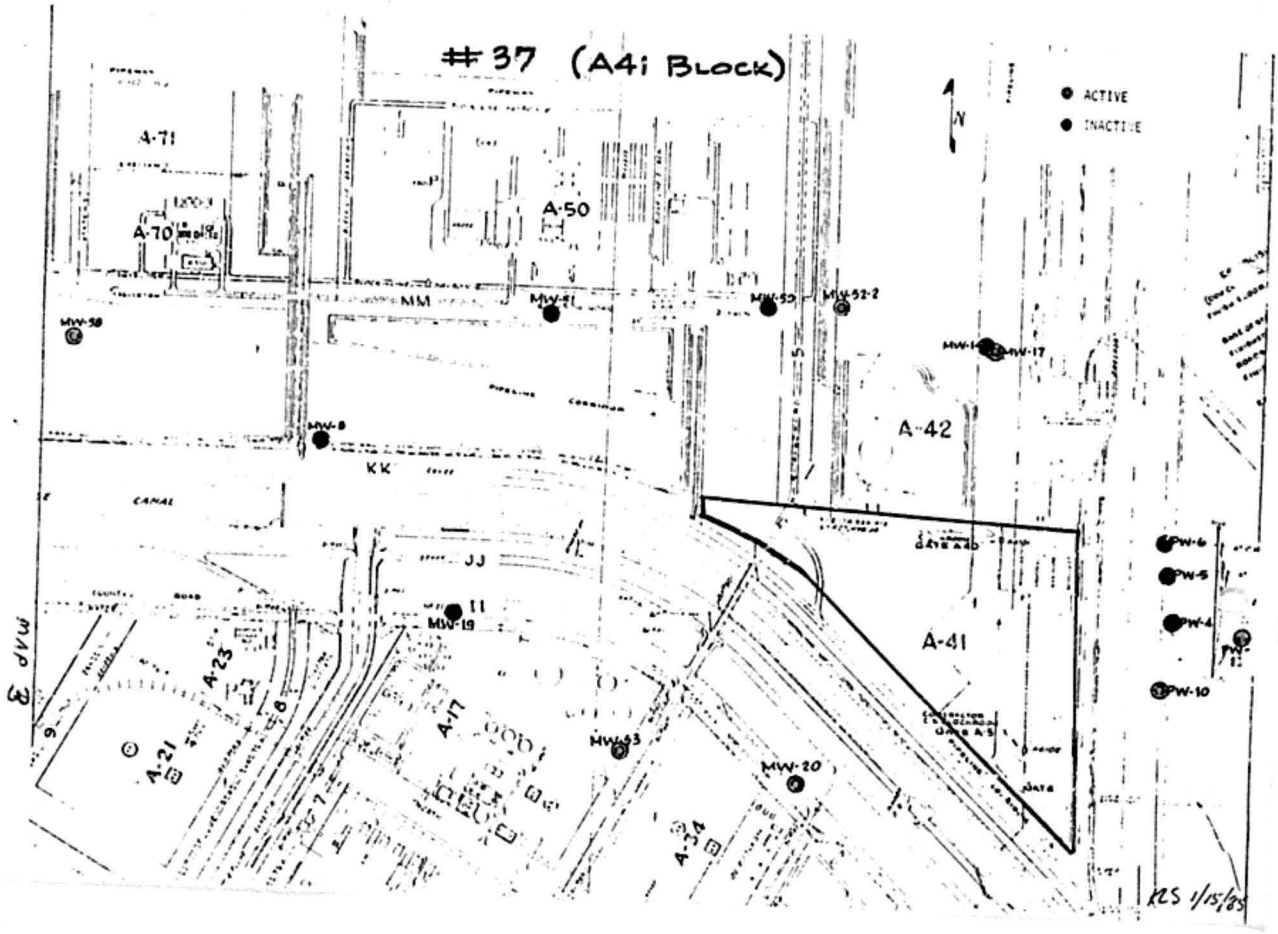
RD-HS-R-TXM002

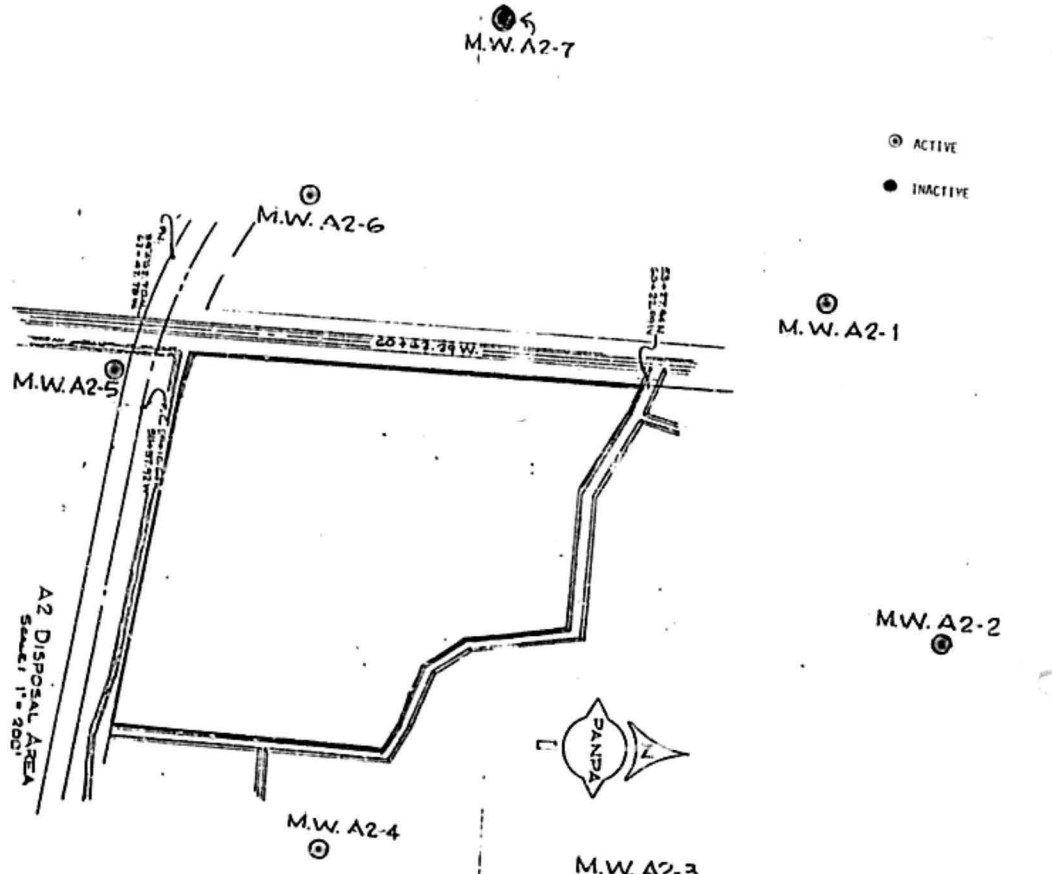




#36 (A1 BLOCK)

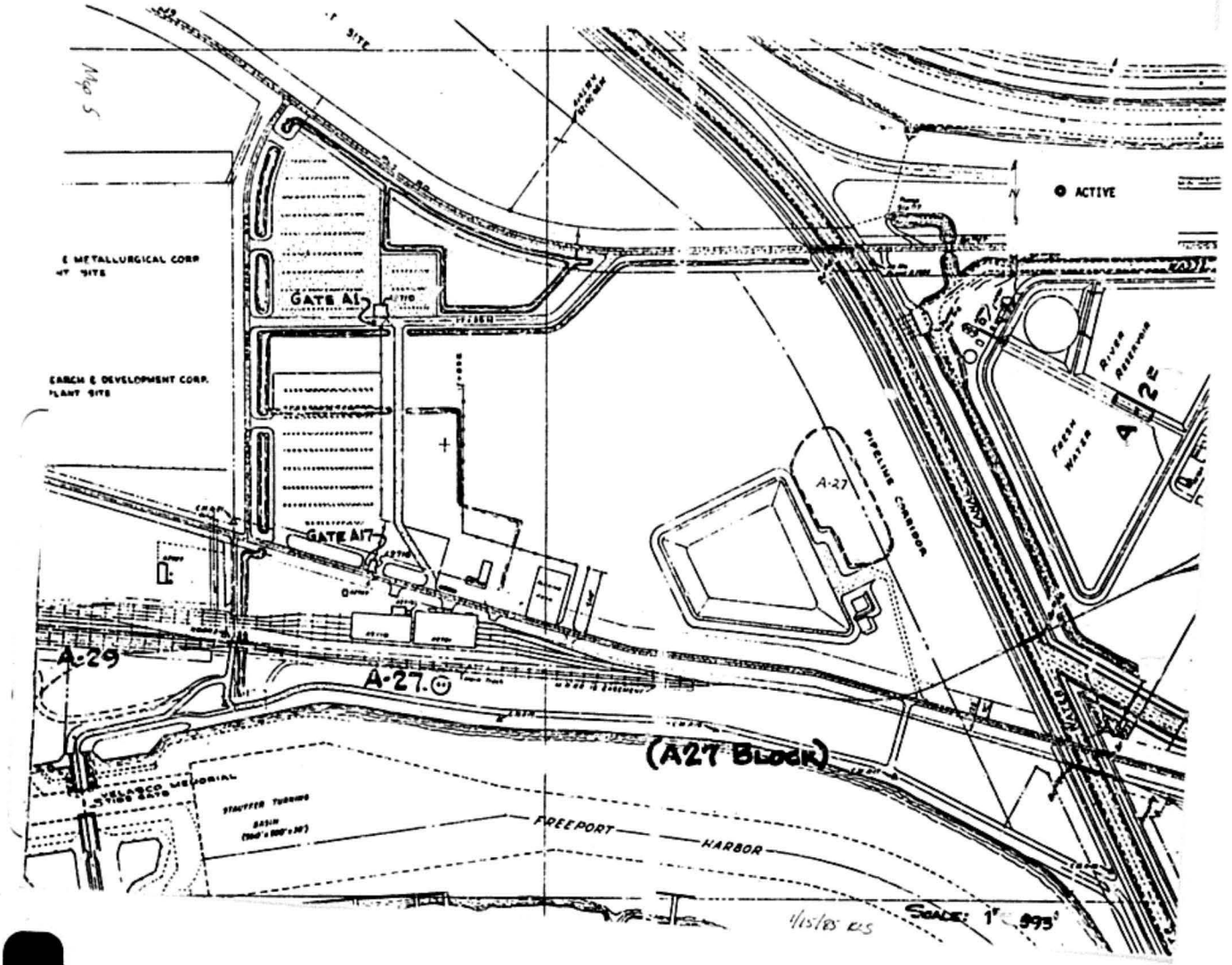






#38 (A76 BLOCK)

KLS 1/15/85



RECEIPT FOR RECORDS

EPA

David Anderson FIT
(Name & Title of EPA Representative)

1-15-85
(Date)

David Anderson
(Signature)

Description of Documents Collected
(Description of letters should include the date and names of addressee and sender; description of records should include title, date, and if signed, the name of person signing.)

General map showing location of disposal facilities 7-20-80
37 (A 41 Block) map 1-15-85
38 (A 76 Block) map 1-15-85
Was'e Disposal Area Plant B Blocks B472 - B49 9-7-83
36 (A 1 Block) map 1-15-85
(A 27 Block) map 1-15-85

Acknowledgement of Facility Representative

The undersigned acknowledges that copies of the documents described above have been collected.

K.L. SHEWBART. MGR., ENV SER & OP
(Name & Title of Facility Representative)

K J Shewbart
(Signature)

THE DOW CHEMICAL Co - Tx OPERATIONS, B-1224, FREEPORT, Tx. 77541
(Facility Name and Address)

DISTRIBUTION: One copy to Facility Representative
One copy for Inspector's Records
Original to Regional Office (SASISC)

NW

N

Photographer / Witness
David Anderson / James E. Hussey
Date / Time / Direction
1-15-85 / 1007 / NW to NE
Comments:
photos 1 of 2 of 4 photo
panorama of A-27
disposal area.
photos from S of area
top photo 1 of 2

N

NE

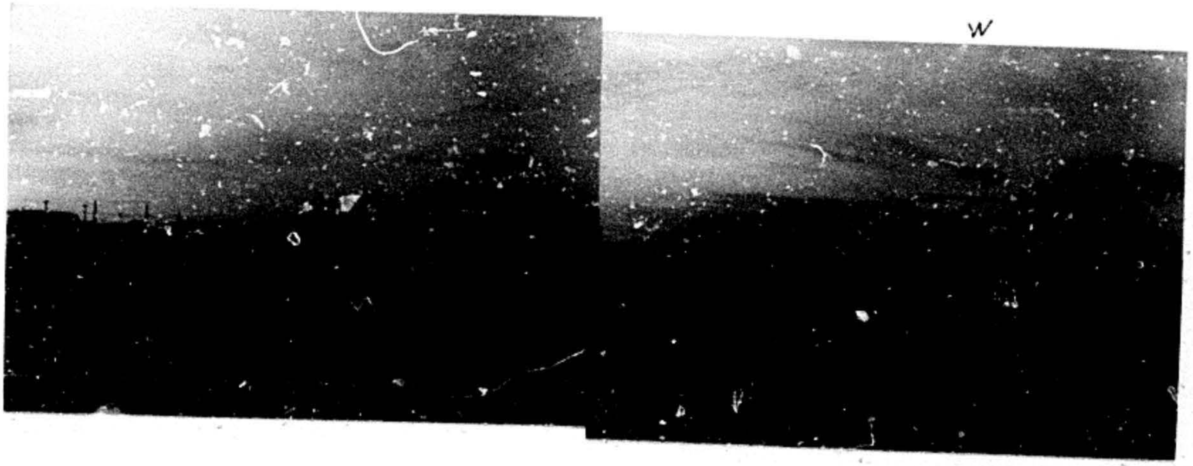
Photographer / Witness
Lloyd Anderson / E. Hensley

Date / Time / Direction
1-15-95 / 1057 / NW TO NE

Comments:
photo 3 of 4 of a 4 photo panorama of A-27 disposal area

log photos 3 of 4

SW' W



Photographer / Witness

David Anderson / James E. Hussey

Date / Time / Direction

1-15-83 / 1018 / SW to NW

Comments:

photos 1+2 of 3 photo

panorama of A-100 (A-1 block)

disposal area

photos from east of area

les photo 6+7

NW

Photographer / Witness
David Anderson / James E. Hussey
Date / Time / Direction
1-15-85 / 1018 / SW to NW
Comments:
photo 3 of 3 photos panorama
of A-100 (A-1 block)
disposal area

log photo 5

N

Photographer / Witness

David Anderson / James E. Hussey

Date / Time / Direction

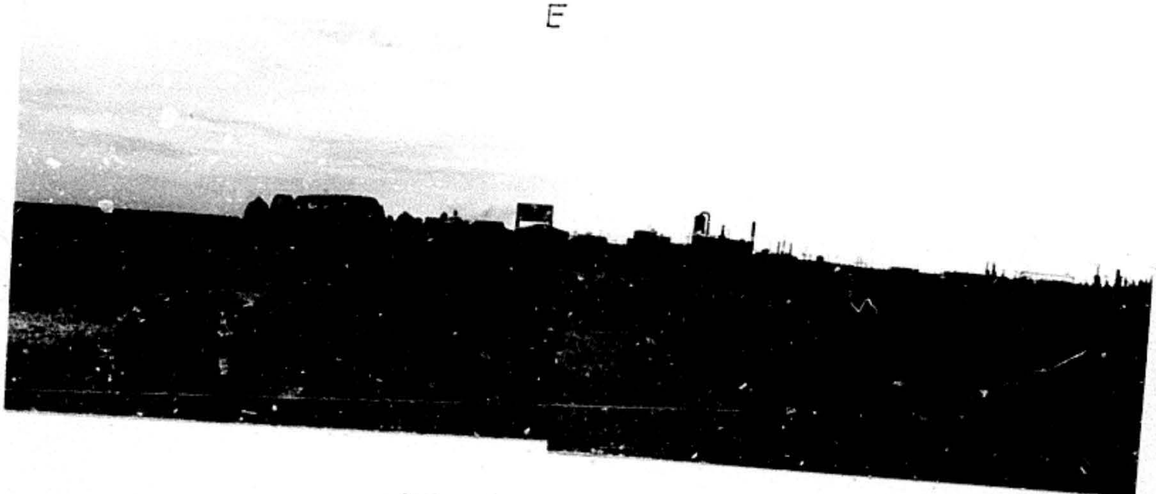
1-15-85 / 1040 / N to S

Comments:

photos 1 & 2 of a 6 photo panorama of the A-2 (A-16 block) disposal area. photos from east of area

log photos 5 + 9

E



Photographer / Witness

David Anderson / James F. Hensley

Date / Time / Direction

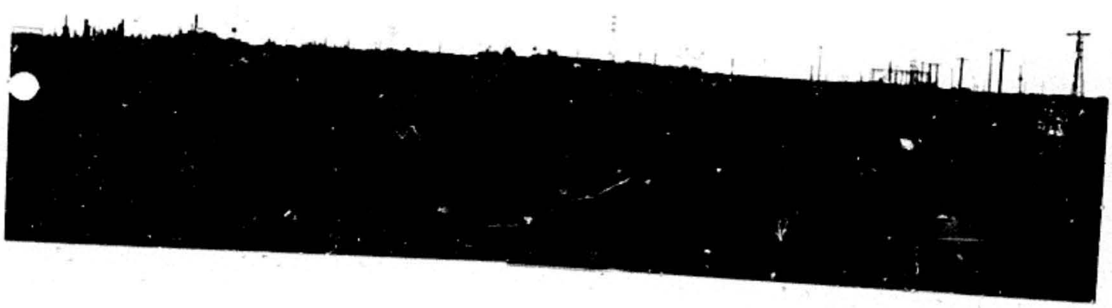
1-15-85 / 1040 / N to S

Comments:

photos 3 & 4 of a 6 photo panorama of the A-2 (A-76 Block) disposal area

log photos 10 & 11

S



Photographer / Witness

[illegible] / [illegible]

Date / Time / Direction

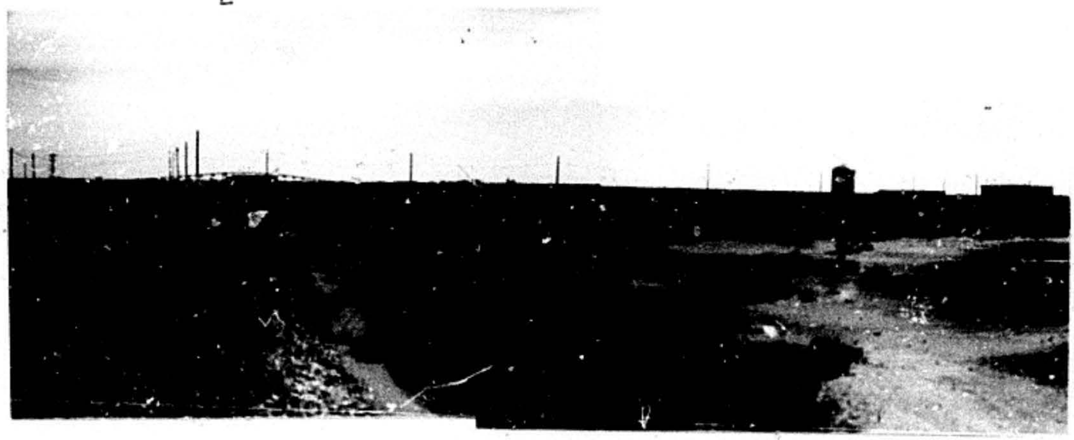
1-15-85 / 1040 / N to S

Comments:

photo 5 of 6 of a 6 photo panorama of the A-2 (A-7 block) disposal area

log photo 120 N

E



Photographer / Witness

Steve Anderson / James E. Hussey

Date / Time / Direction

1-15-85 / 1104 / E to SSE

Comments:

photos 1 & 2 of a 4 photo panorama of the A-1 (A-41 Block) disposal area photos taken from NW of area

log photo 16-16

0366

SSE

Photographer / Witness
David Adam / James E. Kelley
Date / Time / Direction
4-15-85/1104 / E to SSE
Comments:
photos 3 & 4 of a 4 pht panorama
of the A-1 (A-41 block)
disposal area

log photo 17 & 18

Photographer / Witness

David Nelson, James E. Kinsey

Date / Time / Direction

1-15-85 / 1050 / NNW

Comments: WDW 8

plant A injection well

log photo 14

Photographer / Witness

Date / Time / Direction

Comments:

Photographer / Witness

Date / Time / Direction

Comments: